

## ABSTRACT OF THE DISCLOSURE

The optical transmission system comprises (a) at least one directly modulated light source that generates and outputs a signal by direct modulation and (b) at least one optical fiber that constitutes the principal portion of an one optical transmission line at at least one repeater section and that transmits a signal lightwave carrying at least one signal outputted by the at least one directly modulated light source. The at least one optical fiber has a chromatic dispersion that is negative at at least one wavelength of the signal lightwave and has a dispersion slope of at most  $0.05 \text{ ps/nm}^2/\text{km}$  in absolute value at the at least one wavelength.